

# variables



Use and store data in variables



Try it



Debug it



Extend it

{ `create.withcode.uk` }

interactive python tutorials  
for beginners



fun = True

## Student Workbook

Name	
Class	
Teacher	

### Learning Objectives:

Objective	Before	After
1.2: be able to assign and use variables		
1.4: be able to understand and use arithmetic operators		

### Reflection:

I'd like to know / ask / find out ...	Action taken...

## Starter:

How good is your memory? Look at these for 30s then see how many you can remember when you cover them up.

409	potato	badger	python	3	1	8	99	21
Frog	HJUIPWQ	12345	0	zero	purple	yellow	turtle	hello
Open	number							

## Theory:



Fill in the blanks below to make notes.  
Scan the QR code if you need any help.

Computers can **store** and process loads of data.

Variables store **data** so that your program can use and process it.

Variables have a **name** and a **value**.

Variables store data that can **change** when the program runs

A variable **name** describes what the variable is used to store

The variable **value** is the actual data that is stored in the variable.

In python, you can assign a value to a variable using name = value

You can access the **value** stored in a variable just by using its name.

You can also use **operators** to do things like addition, subtraction, multiplication and **division**

## Predict:



Look at each line of code below and write down what you think the python code will display on the screen when it runs.  
The user who runs the code is called Grace  
Her favourite food is Pizza  
Her favourite word is Debugger

### Code

```
1 # Python Variables: try it
2 name = input("What's your name?")
3 print("Hello " + name)
4
5
6 food = input("What's your favourite food?")
7 print("Yum. I like " + food + " too")
8
9 word = input("What's your favourite word?")
10 print(word * 10 + "!")
```

### Program output:

What's your name? **Grace**

**Hello Grace**

What's your favourite food? **Pizza**

**Yum. I like Pizza too**

What's your favourite word? **Debugger**

**DebuggerDebuggerDebuggerDebuggerDebuggerDebuggerDebuggerDebuggerDebugger!**

## Keywords:



Annotate the code above with these numbers showing where you see each of the following

- 1: output
- 2: addition operator
- 3: multiplication operator
- 4: user input
- 5: comment
- 6: whitespace

## Debug:



Circle the errors below and annotate the code to show how to fix each bug or complete each challenge

### Code:

```
1 # Python Variables: debug it
2
3 time = input("What time is it?")
4 print("Really? " + "time" + " already?")
5
6 pets = input("Do you have any pets?")
7 print("I don't understand what you mean by + pets)
8
9 music = input("What sort of music do you listen to?")
10 print(music "sucks!")
11
12 # Challenges:
13
14 # 1) Fix all the syntax errors
15 # 2) Line 4 should say "Really? It's 1pm already?" if you say the time is '1pm'
16 # 3) Line 7 should say "I don't understand what you mean by ????" if you say '???' when asked about pets
17 # 4) Line 10 should say "pop sucks!" if you say you listen to pop
```

```
# Python Variables: debug it
time = input("What time is it?")
print("Really? It's " + time + " already?")

pets = input("Do you have any pets?")
print("I don't understand what you mean by " + pets)

music = input("What sort of music do you listen to?")
print(music + " sucks!")
```

## Extend:



Use the code below to Write an irritating chatbot that asks lots of silly questions

You must ask at least 5 questions and store all of the answers into variables

Use input to ask the question and save the answer into a new variable each time (like line 4 which asks "What is your name?" and stores the answer into a variable called name)

### Code:

```
1 # Python Variables: extend it
2
3 print("Hello")
4 name = input("What is your name?")
5
6 hungry = input("Are you hungry?")
7 thirsty = input("Are you thirsty?")
8 age = input("How old are you?")
9 school = input("What school do you go to?")
```